Madigan Army Medical Center
Musculoskeletal Treatment Guidelines

ILIOTIBIAL BAND SYNDROME (ITBS)

Diagnosis/Definition

- The iliotibial band (ITB) is a thick band of connective tissue that runs along the outside of the thigh. ITBS is an overuse injury caused by repetitive friction of the ITB across the knee joint area.

Initial Diagnosis and Management

- History and physical examination
- Relative rest: decrease or stop running
- Ice and massage
- NSAIDs
  - Adults - 200 to 400 milligrams (mg) every four to six hours as needed for up to 2 weeks. Example: Ibuprofen
  - Take tablet or capsule forms of these medicines with a full glass (8 ounces) of water.
  - Do not lie down for about 15 to 30 minutes after taking the medicine. This helps to prevent irritation that may lead to trouble in swallowing.
  - To lessen stomach upset, these medicines should be taken with food or an antacid.
- Stretches and strengthening
- Appropriate restrictions of activity

Ongoing Management and Objectives

- Rest is individualized depending upon severity
- Ice for 10 to 15 minutes with hourly reapplication.
- Slow and sustained active stretches

Indication a profile is needed

- Any limitations that affect strength, range of movement, and efficiency of feet, legs, lower back and pelvic girdle.
- Slightly limited mobility of joints, muscular weakness, or other musculo-skeletal defects that may prevent moderate marching, climbing, timed walking, or prolonged effect.
- Defects or impairments that require significant restriction of use.

Specifications for the profile

- Week 1-4
  - Walking and swimming to tolerance

- No running or jumping
- Easy stationary bicycling
- No rucking

Patient/Soldier Education or Self care Information

- Please see attached sheet
- Demonstrate deficits that exist
  - Describe/show soldier his/her limitations
- Explain injury and treatment methods
  - Use diagram attached to describe injury, location and treatment.
- Instruct and demonstrate rehab techniques
  - Demonstrate rehab exercises as shown in attached guide
  - Warm up before any sports activity
  - Participate in a conditioning program to build muscle strength
  - Do stretching exercises daily
- Ask the patient to demonstrate newly learned techniques and repeat any other instructions.
- Fine tune patient technique
- Correct any incorrect ROM/stretching demonstrations or instructions by repeating and demonstrating information or exercise correctly.
- Encourage questions
  - Ask soldier if he or she has any questions
- Give supplements such as handouts
- Schedule follow up visit
  - If pain persists
  - The pain does not improve as expected
  - Patient is having difficulty after three days of injury
  - Increased pain or swelling after the first three days
  - Patient has any questions regarding care

Indications for referral to Specialty Care

- To Physical Therapy: Routine referral for rehabilitation.
- Orthopedic Surgery referral for all Grade III sprains and any grade if plain radiographs are suggestive of any pathology.

Referral criteria for Return to Primary Care

- Completed specialty care.

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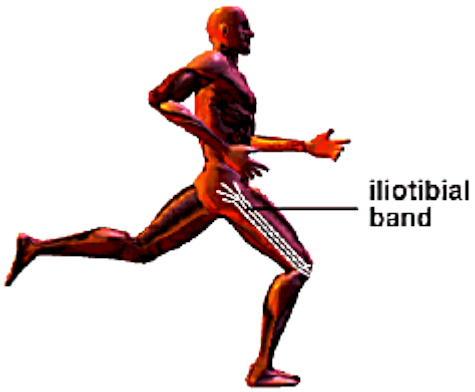

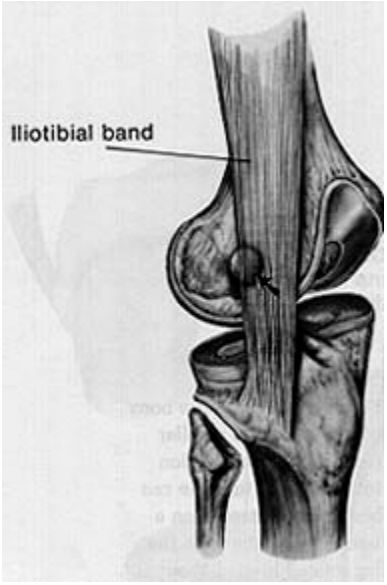

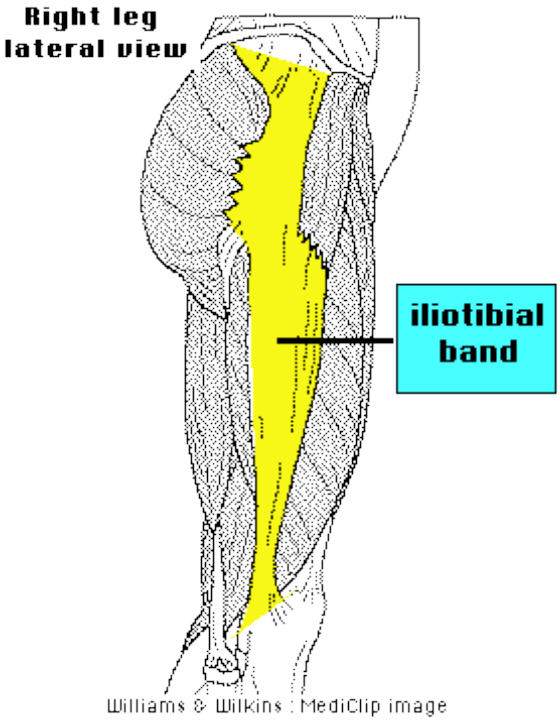

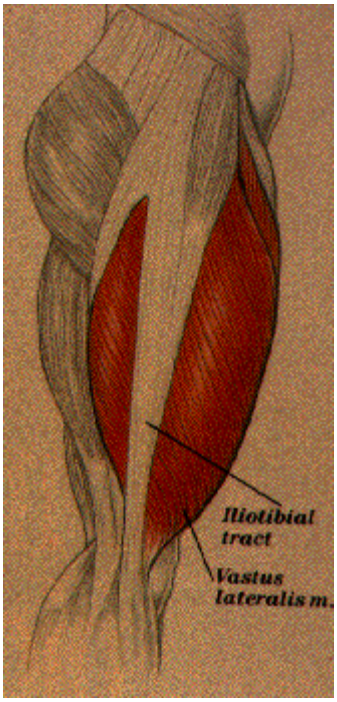

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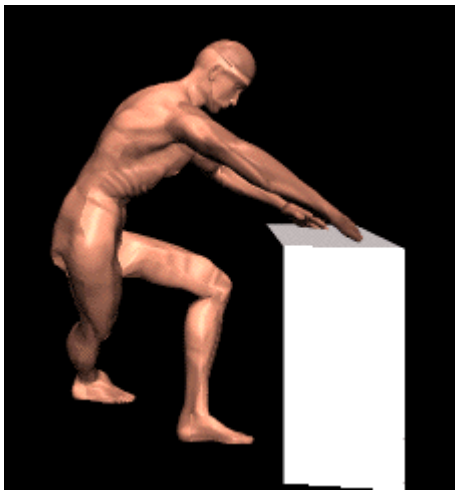
Exercises

ILIOTIBIAL BAND STRETCH



Side View.

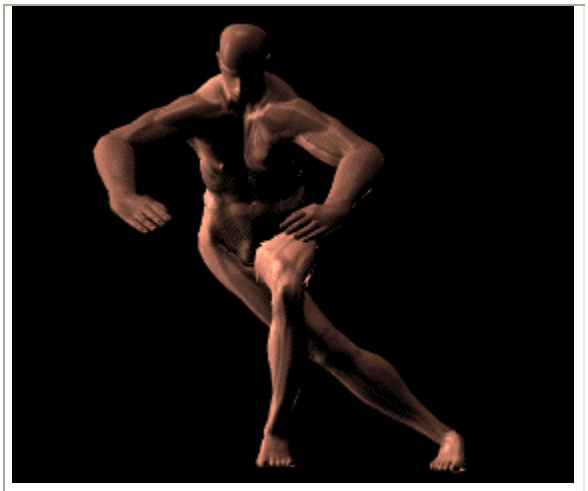
1. Place the right leg behind the left.

2. Bend at the waist, leaning over a support, such as a desk or counter.

3. As you bend the left knee, slide the right leg out away from your body. Keep the right knee straight.

4. Bend your body toward the right leg.

You should feel a stretch along the outside of the right thigh.



Front View.

The "desk" has been removed to better demonstrate the stretch.

If you lean your upper body towards the leg you are stretching, then this will better stretch the IT band. In the example, the figure would bend (at the waist) to the right side of the screen. (the figure's left hand side)

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PHYSICAL PROFILE

For use of this form, see AR 40-501; the proponent agency is the Office of The Surgeon General

1. MEDICAL CONDITION: ILIOTIBIAL BAND SYNDROME

2. P U L H E S

3. ASSIGNMENT LIMITATIONS ARE AS FOLLOWS: WEEKS 1 -4 , WALKING AND SWIMMING TO TOLERANCE, NO RUNNING OR JUMPING, NO RUCK, EASY STATIONARY BICYCLING — CODES

4. THIS PROFILE IS ☐ PERMANENT ☒ TEMPORARY EXPIRATION DATE:

5. THE ABOVE STATED MEDICAL CONDITION SHOULD NOT PREVENT THE INDIVIDUAL FROM DOING THE FOLLOWING ACTIVITIES

☒ Groin Stretch	☐ Thigh Stretch	☒ Lower Back Stretch	☒ Neck & Shoulder Stretch	☒ Neck Stretch
☒ Hip Raise	☐ Quads Stretch & Bal.	☐ Single Knee to Chest	☒ Upper Back Stretch	☒ Ankle Stretch
☐ Knee Bender	☐ Calf Stretch	☐ Straight Leg Raise	☒ Chest Stretch	☒ Hip Stretch
☐ Side-Straddle Hop	☐ Long Sit	☐ Elongation Stretch	☒ One-Arm Side Stretch	☒ Upper Body Wt Tng
☐ High Jump	☐ Hamstring Stretch	☒ Turn and Bounce	☒ Two-Arm Side Stretch	☒ Lower Body Wt Tng
☐ Jogging in Place	☐ Hams. & Calf Stretch	☒ Turn and Bend	☒ Side Bender	☒ All

6. AEROBIC CONDITIONING EXERCISES

- ☒ Walk at Own Pace and Distance
- ☒ Run at Own Pace and Distance
- ☒ Bicycle at Own Pace and Distance
- ☒ Swim at Own Pace and Distance
- ☒ Walk or Run in Pool at Own Pace

- ☐ Unlimited Walking
- ☐ Unlimited Running
- ☐ Unlimited Bicycling
- ☐ Unlimited Swimming

- ☐ Run at Training Heart Rate for ____ Min.
- ☐ Bicycle at Training Heart Rate for ____ Min.
- ☐ Swim at Training Heart Rate for ____ Min.

7. FUNCTIONAL ACTIVITIES

- ☒ Wear Backpack (40 Lbs.)
- ☒ Wear Helmet
- ☒ Carry Rifle
- ☒ Fire Rifle

With Hearing Protection

- ☐ KP/Mopping/Mowing Grass
- ☐ Marching Up to 2 Miles
- ☒ Lift Up to 15 Pounds
- ☐ All

PHYSICAL FITNESS TEST

☐ Two Mile Run	☐ Walk
☒ Push-Ups	☒ Swim
☒ Sit-Ups	☐ Bicycle

8. TRAINING HEART RATE FORMULA

MALES 220 FEMALES 225

MINUS (-) AGE
MINUS (-) RESTING HEART RATE
TIMES (X) % INTENSITY
PLUS (+) RESTING HEART RATE

50% EXTREMELY POOR CONDITION
60% HEALTHY, SEDENTARY INDIVIDUAL
70% MODERATELY ACTIVE, MAINTENANCE
80% WELL TRAINED INDIVIDUAL

9. OTHER

TYPED NAME AND GRADE OF PROFILING OFFICER	SIGNATURE	DATE
TYPED NAME AND GRADE OF PROFILING OFFICER	SIGNATURE	DATE

ACTION BY APPROVING AUTHORITY

PERMANENT CHANGE OF PROFILE ☐ APPROVED ☐ NOT APPROVED

TYPED NAME, GRADE & TITLE OF APPROVING AUTHORITY	SIGNATURE	DATE

ACTION BY UNIT COMMANDER

THIS PERMANENT CHANGE IN PROFILE SERIAL ☐ DOES ☐ DOES NOT REQUIRE A CHANGE IN MEMBER'S
☐ MILITARY OCCUPATIONAL SPECIALTY ☐ DUTY ASSIGNMENT BECAUSE:

TYPED NAME AND GRADE OF UNIT COMMANDER	SIGNATURE	DATE

PATIENT'S IDENTIFICATION *(For typed or written entries give: Name (last, first, middle); grade; SSN; hospital or medical facility)*

UNIT

ISSUING CLINIC AND PHONE NUMBER

DISTRIBUTION
UNIT COMMANDER - ORIGINAL & 1 COPY
HEALTH RECORD JACKET - 1 COPY
CLINIC FILE - 1 COPY
MILPO - 1 COPY

DA FORM 3349, MAY 86 REPLACES DA FORM 5302-R (TEST) DATED FEB 84 AND DA FORM 3349 DATED 1 JUN 80, WHICH ARE OBSOLETE
USAPPC V1.00

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PATIENT INFORMATION

How Many Ways Do You Know How to Stretch for ITB Friction Syndrome?

What is iliotibial band friction syndrome?

It is a condition characterized by pain localized over the lateral femoral epicondyle that occurs during vigorous walking, hiking or running. The pain is usually relieved by rest and by walking with the knee held in full extension. However, when ambulation and knee flexion are resumed, symptoms return.

What is the iliotibial band (ITB)?

The iliotibial band is a tendinous extension of the fascia covering the gluteus maximus and tensor fascia latae muscles proximally. It descends distally to attach to the lateral condyle of the tibia. It also sends fibers to the lateral aspect of the patella (knee cap). Essentially, the ITB is the linkage between the pelvis, upper leg, and lower leg. Pathology to any structure linked to one of these areas may cause ITB contracture.

What is a possible cause of iliotibial band friction syndrome?

Overuse may cause shortening of the ITB. The knee goes from flexion to extension and excessive pressure from the ITB causes friction over the lateral femoral epicondyle. This repeated motion produces inflammation of the underlying structures and causes pain.

What are the facts concerning iliotibial band friction syndrome?

- Pain localized over lateral femoral condyle
- Discomfort initially relieved by rest
- Pain may radiate toward the lateral joint line and proximal tibia
- Worse if a person continues to run
- No symptoms of internal derangement
- Symptoms frequently develop during downhill running
- Inadequate stretching program

Which anatomic factors may be associated with iliotibial band friction syndrome?

- Hip abduction contracture (ITB tightness)
- Genu varum (Bow legging)
- Heel and foot pronation
- Tight heel cords
- Internal tibial torsion (Inward rotation of the leg)

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What are the treatments of iliotibial band friction syndrome?

- Rest
- Ice
- Stretching of iliotibial band
- Instruct a person to avoid hills, shorten stride, and run on alternate sides of road
- Anti-inflammatory medicine
- Orthotics (if appropriate)
- Ultrasound
- Contrast baths
- Local steroid injection

What are the different stretching techniques?

There are two different stretching approaches: *self-stretching* and *stretching with an outside applied force*.
Note: The individual pictured in these exercises is tight.

Self-stretching:

1. *Starting position:* Upright standing.
   Action: Cross involved leg behind uninvolved leg in standing position, with a stretched leg behind, and lean to the uninvolved side until a stretch is felt over outside of involved hip.

2. *Starting position:* Lying on your back with arms to the sides.
   Action: Lift your involved leg over the other leg placing your opposite hand on the back of the stretched thigh. Keep your arm on the involved side extended out to the side and both shoulders flat. If possible, try to straighten the knee of your stretched leg to accentuate the stretch.

3. *Starting position:* Sit comfortably with your legs out in front of you.
   Action: Put the foot of the involved knee flat on the ground on the outside of the other straight leg. Reach over your stretched leg with your opposite arm, so that your elbow is on the outside of your stretched thigh. Slowly turn your head and look over your stretched side shoulder, at the same time, turn your upper body toward the same side. Keep your hips flat on the floor at all times.
   Note: If you do not feel the stretch, bend your opposite knee, placing the foot next to your stretched hip.

4. *Starting position:* Lying on your back with your legs straight.
   Action: Bend the knee of the involved limb, and while holding it with your both hands, pull it toward your chest and to the opposite shoulder.

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Stretching with the outside applied force:

1. *Ober's stretch*
   Starting position: Side lying with the stretched thigh on top.
   Action: The patient is positioned lying on the uninvolved side, and the hip and knee of the bottom limb are flexed into the chest and held tightly in this position. The hip of the limb to be stretched (upper) is flexed and abducted than extended with the knee flexed. The therapist will stand behind the patient placing one hand on patient's pelvis for stability and the other hand on stretched knee while applying downward pressure.

2. *Reverse Ober's stretch*
   Starting position: Side lying with the involved side on the bottom.
   Action: The patient is positioned lying on the side, and the hip and knee of the top limb are flexed. The hip of the limb to be stretched (lower) is extended and the knee is slightly flexed. Therapist will stand behind the patient placing one hand on the patient's pelvis to stabilize it. The other hand is placed under the involved knee. The therapist pulls in an upward direction on stretched limb (lower), more hip extension may be required to tension the ITB.

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Maintained by the Madigan Army Medical Center - Quality Services Division
Clinical Practice and Referral Guidelines Administrator

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Input was provided by:

- Occupational Therapy Clinic
- Physical Therapy Clinic
- Orthopedic Clinic
- Family Practice Clinic
- Okubo Clinic
- 555 Engineers
- 1st Brigade
- 3rd Brigade
- 62nd Medical Brigade

POC:

- Outcome Management

References:

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